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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,176	03/09/2004	Michael Charles Shelton	71626 US02	3518
69102	7590	01/25/2008	EXAMINER	
POLLY C. OWEN P.O. BOX 511 KINGSPORT, TN 37662-5075			HAIDER, SAIRA BANO	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,176	SHELTON ET AL.	
	Examiner	Art Unit	
	Saira Haider	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 November 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) 1-31,45,46,48-65,72-77,79,80 and 82 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 32-44,47,66-71,78,81 and 84 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/ are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/27/2007</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Newly submitted claims 82 and 83 are dependent on independent claims 1 and 14, wherein independent claims 1 and 14 are directed to an invention that is independent or distinct from the invention originally claimed, as set forth in the Restriction Requirement mailed on 3/22/2006.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 82 and 83 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 32, 37, 38, 40, 41, 43, 47, 66, 67-69, 71, 81 and 84 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchanan et al. (US 5,292,783).

4. Buchanan discloses binary and ternary blends of cellulose esters and aliphatic-aromatic copolyesters, as well as fibers, molded objects, and films prepared therefrom (abstract). Suitable cellulose esters include cellulose acetate butyrate (CAB) and cellulose acetate propionate (CAP) (claims 32, 34, 37). Suitable cellulose esters have a total DS/AGU is about 1.7 to 3.0 and an inherent viscosity of about 0.20 to about 3.0 dL/g (as measured at 25°C in a 60/40 pbw solution of phenol/tetrachloroethane) (claim 32). Buchanan specifies that for CAP, the DS/AGU of acetyl ester is 1-50% of the total ester content, thus, the DS/AGU is in the range of 0.02-1.5, upon calculation

the DS/AGU of propionate is in the range of 1.5-2.98, and the DS-AGU of hydroxyl is in the range of 0-0.04 (claim 36).

5. Applicant has claimed a value of total DS/AGU is about 3.08, wherein Buchanan discloses a value of about 3.0, applicant has claimed an inherent viscosity of about 0.15 dL/g, wherein Buchanan discloses a value of about 0.20 dL/g, and applicant has claimed a DS/AGU of hydroxyl of about 0.05, wherein Buchanan discloses a value of 0.04. It is noted that the term "about" permits some tolerances, wherein at least about 10% was held to be anticipated by a teaching of a content not to exceed about 8%. *In re Ayers*, 154 F 2d 182, 69 USPQ 109 (CCPA 1946). Therefore the claimed limitations are held to be anticipated by the prior art.

6. In view of the structural, chemical and viscosity similarities of the claimed composition and that of the prior art, the properties [molecular weights, polydispersity, clear solution formation, acid value (herein claims 32, 40, 41, 43)] applicant claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Specifically, in reference to the claimed acid value of no greater than 5, since the cellulose acetate propionate of Buchanan fails to contain carboxyl functionality, thus the esters inherently have an acid value of less than about 5. Note, that because the references do not expressly teach or address the properties of the claimed invention, it does not mean that the properties are not inherently disclosed. Teaching the same compound(s) inherently discloses the corresponding properties. The references cannot possibly teach or address all of the properties, but implicitly all of the properties are present.

7. In reference to herein claims 47, 66-71, 78, Buchanan discloses the formation of films, wherein the films comprise ternary blends of cellulose esters and aliphatic-aromatic copolymers (abstract). The blend comprises about 4-97 wt % of the above discussed cellulose esters, and about 2-97 wt % of an aliphatic polyester (coating resin) (claim 32). Wherein the components are blended

in an solvent, which includes water (col. 17, line 65 to col. 18, line 2; col. 6, line 55-60). The composition further contains 0.001-50 wt % of additives such as UV light stabilizers and colorants (claim 54). Buchanan discloses the formation of a variety of articles, include those which require metal, such as tool handles and razor parts (col. 15, lines 60-66).

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 33-36, 39, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al. (US 5,292,783).

10. In reference to claims 33-36, and 44, Buchanan fails to disclose the DS/AGU of acetyl ester of cellulose acetate butyrate (CAB). However, Buchanan discloses that the preferred cellulose esters are CAP and CAB, wherein Buchanan discloses the DS/AGU of acetyl ester of CAP. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize CAB with the same DS/AGU of acetyl ester as disclosed for CAP. Motivation for the substitution is provided by the fact that both are preferred embodiments and substitution of one for the other is readily within the skill of one in the art.

11. In view of the structural, chemical and viscosity similarities of the claimed composition and that taught by the prior art, the properties [clear solution formation and mixed ester viscosity] applicant claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Note, that because the references do not expressly teach or address the properties of the claimed invention, it does not mean that the properties are not inherently disclosed. Teaching the same compound(s) inherently discloses the corresponding properties. The references cannot possibly teach or address all of the properties, but implicitly all of the properties are present.

12. In reference to claims 39 and 42, which limit the inherent viscosity maximum value to 0.12 dL/g and 0.11 dL/g, respectively, it is noted that the Buchanan reference discloses a lower limit of about 0.20 dL/g, wherein it is the examiner's position that one skilled in the art would have expected the composition of the Allen reference to have the same properties as the claimed composition. As noted above, the term "about" permits some tolerances. Additionally, a difference of about 0.08-0.09 dL/g in the inherent viscosity is not expected to change the properties of the composition. It has been held that a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

13. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al. (US 5,292,783) in view of Allen et al. (US 5,668,273).

14. Buchanan fails to disclose aluminum or mica as suitable pigments. Thus, attention is directed towards the Allen reference, which discloses a coating composition comprising cellulose esters, a resin, solvent, and additives (col. 8, lines 14-55; col. 9, lines 15-27). Wherein suitable additives include pigments comprised of aluminum or mica (claim 17). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize aluminum or mica as pigments in the invention of Buchanan. Wherein motivation is provided by the fact that aluminum or mica pigments are art recognized as suitable for an intended purpose, pigmentation. The selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP § 2144.07.

Response to Arguments

15. Applicant has essentially argued that the cited Ti Metal case is inapplicable in the rejection. However, as noted above, the term "about" permits some tolerances. Thus, the claimed values and the prior art values are considered to be sufficiently close such that one skilled in the art would have expected them to have the same properties.

16. Applicant has attempted to refute the examiner's inherency and obviousness positions regarding the claimed inherent viscosity and molecular weight by citing the data provided in the herein application's specification. The examiner has thoroughly considered the evidence provided in both the specification and the remarks, however, as discussed below, the evidence is insufficient to overcome the rejection because applicants have failed to (1) provide data proving that the prior art products do not necessarily possess the characteristics of the herein claimed product, (2) show that the prior art teaches away from the claimed invention, or (3) show that there are new and unexpected results relative to the prior art.

17. Regarding the first deficiency, the inherency position, as per MPEP § 2112, once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, as done above, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on '*prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). Applicant has failed to provide

data proving that the prior art products do not necessarily or inherently possess the characteristics of the herein claimed product. Thus, the rejection is maintained.

18. Regarding the second and third deficiencies, the obviousness position (the inherent viscosity difference of the claimed product and that of the prior art is sufficiently close such that one skilled in the art would have expected them to have the same properties), as per MPE § 2144.05, applicant can rebut a presumption of obviousness based on a claimed invention that falls within a prior art range by showing "(1) [t]hat the prior art taught away from the claimed invention...or (2) that there are new and unexpected results relative to the prior art." *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322, 73 USPQ2d 1225, 1228 (Fed. Cir. 2004).

19. Specifically, in terms of the second deficiency, applicant has failed to show that the prior art teaches away from the claimed invention. Applicant has argued that the Allen reference teaches away from the claimed invention. Applicants allege that the references disclose that an increase in the viscosity is beneficial in water borne compositions and provides superior compatibility (Allen @ col. 2, lines 53-62;). The entire disclosure of the Allen reference at the cited portion states that the waterborne compositions comprising the CMC esters exhibit an increase in viscosity with a small increase in concentration of CMC ester when treated with ammonia or an amine. The Allen reference fails to explicitly state what applicants have alleged is taught. The references state "[t]his is beneficial in waterborne coatings," such that upon the discussed treatment there is an increase in viscosity of the waterborne coatings, applicants claims are not drawn to this specific type of coating, wherein the cellulose esters are treated accordingly. Thus, the cited disclosures fail to teach away from the claimed invention.

20. The fact that Allen recognizes that inclusion of cellulose esters at a specific concentration in amine neutralized waterborne dispersions function as rheology modifiers, wherein the cellulose

esters show exponential viscosity changes. Rapid viscosity build (exponential increases in viscosity) is useful in reducing runs and sags in waterborne spray applications (Allen @ col. 6, line 24-26). The reference fails to show that the prior art teaches away from the claimed invention. The references conclude that cellulose esters are useful as rheology modifiers when present in a specific concentration in a specific waterborne dispersion. Applicant's claims are not drawn to this specific type of waterborne composition, wherein the cellulose ester is present in a specific concentration. Thus, the cited disclosures fail to teach away from the claimed invention.

21. Applicant has argued that Allen teaches that an increase in viscosity helps prevent sagging of the coating (col. 16, lines 18-21). Applicant has improperly characterized the Allen reference, the entire disclosure of the Allen reference at/near the cited portion states that the viscosity increase on evaporation could help prevent sagging of the coating during a spraying operation. This characterization applies for the particular exemplified CMCAB present in the exemplified pigmented thermoplastic automotive basecoat. Again, applicant's claims are not drawn to this specific type of basecoat composition comprising the exemplified CMCAB in the stated amounts. Thus, the cited disclosures fail to teach away from the claimed invention.

22. In all of the above allegations of teaching away, the nature of the teaching is rendered highly relevant and is weighed into substance to determine that the Allen references fail to teach away from the combination. Thus the rejection is maintained. See MPEP § 2145.

23. Specifically, in terms of the third deficiency, the data provided by applicant fails to show that there are new and unexpected results relative to the prior art. These showing are insufficient to establish unexpected results of the claimed subject matter for various reasons, as discussed below.

24. Firstly, the unexpected results are not commensurate in scope with the claimed invention, applicants claims are generic to the claimed components, whereas the examples are drawn to species

of the claimed components. Secondly, applicant has claimed broad ranges for the DS values, the inherent viscosity, and the molecular weights, whereas the examples are drawn to specific values of each of the components. Attention is directed to MPEP § 716.02(d)(I), which states that nonobviousness of a genus or claimed range may be supported by data showing unexpected results from testing a narrower range if one of ordinary skill in the art would be able to determine a trend in the exemplified data which would allow the artisan to reasonably extend the probative value thereof. However, applicants have failed to provide an adequate basis for reasonably concluding that the great number and variety of compositions included in the claims would behave in the same manner as the tested composition.

25. Furthermore, the unexpected results must compare the claimed subject matter with the closes prior art to be effect to rebut a *prima facie* case of obviousness. See MPEP § 716.02(e). Applicants' comparative examples are not the closest prior art; thus the unexpected results are held deficient in this regard.

26. Additionally, a side-by-side comparison should hold all variable the same except for that which is alleged to be critical. *Ex Parte Raske*, 28 USPQ2d 1306. Applicant has failed to hold all the variable, except the critical variable constant. See Examples 24-26, example 25 cannot be compared because the DS of acetyl ester was not measured. Thus, compare Example 24 to Example 26, the DS of butyryl varies by 0.53, the DS of acetyl ester varies by 0.06, the DS of hydroxyl varies by 0.59, the inherent viscosity varies by 0.024, and the number average molecular weight varies by 518. Thus, given that at least 3 variables are not held constant, it cannot be readily determined that a change in the inherent viscosity changes the molecular weight.

27. Applicants' attention is directed to MPEP §716 which discloses the requirements for effectively rebutting a *prima facie* case of obviousness based on unexpected results.

28. Applicant has argued that Allen disclose molecular weights and a polydispersity which is outside the claimed range. It is noted that the Allen example applicant relies on to support their position was not the basis of the rejection, further, the example is irrelevant in that it does not even meet the claimed DS values. Thus, reliance on this cited Allen example is improper and the rejections are maintained.

Conclusion

29. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saira Haider whose telephone number is (571) 272-3553. The examiner can normally be reached on Monday-Friday from 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saira Haider
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